

TURBO-JET PUMP AND WATER JET ENGINE

ABSTRACT OF THE DISCLOSURE

Turbo-jet pump - water jet engine is a totally new solution for driving vessels on the water surface and under water, ships and submarines, and setting them to speeds of over 50 m/s (over 185 km/h or over 100 knots). The basic design involves the pump housing (1), which in its rear section transforms into the Venture's tube (16). The actuating three phase asynchronous electric motor (8, 9, 10, 11), using electric current of high voltage and high operating frequencies, is of small overall Dimensions compared to the power achieved, drives the axial pump rotors (5, 13) and provides for very high flows. A large mass of water accelerated in the Venture's tube provides for high thrust. When we use plane axis-symmetrical blades of elliptical cross-section (25), the pump can rotate in either direction, so that both ends of the housing are to be equipped with the Venture's tube (16) for doubleacting jet, which is important with submarines. The variant solutions are when the pump is driven through shafts axially (19) or radially (22) placed to the pump shaft axis (8), and a device within the vessel drives these.